

REMARKS

Claims 1-17 are pending in the application. Applicants amend claims 1, 7-8, 12, and 14-15 for further clarification. No new matter has been added.

Claims 1-17 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

Applicants amend claims 1, 7-8, 12, and 14-15 to more clearly recite the features of the invention in forms other than single means claims. Accordingly, Applicants respectfully request that the Examiner withdraw the § 112 rejection.

Claims 1-5 and 16-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,046,629 to Wu et al. in view of U.S. Patent No. 6,633,567 to Brown, and further in view of U.S. Patent No. 6,256,314 to Rodrig et al.; claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wu et al. in view of Brown, Rodrig et al., and further in view of U.S. Patent No. 6,963,575 to Sistanizadeh et al.; claims 9-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wu et al. in view of Brown, Rodrig et al., and further in view of U.S. Patent No. 6,308,218 to Vasa; and claims 7-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Vasa in view of Brown, and further in view of Sistanizadeh et al. Applicants amend claims 1 and 7-8 in a good faith effort to further clarify the invention as distinguished from the cited references, and respectfully traverse the rejections.

Wu et al. describe, in col. 2, lines 32-38 thereof,

“The method comprises the steps of a) adding a control mechanism in a learning mode of the switch; b) enabling one of a plurality of ports of the switch to detect a number of learned addresses in the address table[;] c) determining whether the number of learned addresses has exceeded a predetermined maximum number of learnable address of the address table...”
(Emphasis added)

Wu et al. describe limiting a number of learned addresses for each of a plurality of ports. But Wu et al. fail to disclose a learning number counter for storing a number of learned addresses for each user group of the plurality of user groups.

Furthermore, Wu et al. fail to disclose a learning number counter for storing a number of learned addresses for each of a plurality of user groups in an address learning table, limiting the number of learned addresses of a user group judged based on a header of a received packet in the plurality of user groups in the address learning table, and updating the number of learned addresses of the user group in the learning number counter when the number of learned addresses for the user group does not exceed the address upper limit.

And Brown describes, in col. 9, lines 32-36 thereof,

“In the example shown above there are two bits assigned to the group member number, allowing a maximum of four VIDs per FID 230a-b. However, the number of VLANs in a group identified by a FID...” (Emphasis added)

That is, Brown describes grouping VLANs and assigning a group of VLANs to a unique group member number. And, again, the description “maximum of four VIDs per FID” in col. 9, lines 34-35 in Brown means a number of VIDs (VLANs) per FID (VLAN group), and does not mean a number of learned addresses in a learning table per a VLAN or a FID.

Accordingly, Brown fails to disclose classifying users into a plurality of user groups, limiting and controlling a number of learned addresses in the address learning table for each of the user groups.

Furthermore, Brown fails to disclose a learning number counter for storing a number of learned addresses for each of the plurality of user groups in the address learning table, limiting the number of learned addresses of a user group judged based on a header of a received packet in the plurality of user groups in the address learning table, and updating the

number of learned addresses of the user group in the learning number counter when the number of learned addresses for the user group does not exceed the address upper limit.

Rodrig et al. describe that

“Only stations that are eligible to be learned are added to the IP table such that packets to them are then routed. Stations that are not eligible to be learned never get into the table so packets to them are never routed by this switch...One possible configuration to support this feature includes a ‘learning control table’ storing a list of eligible IP address ranges. An eligible IP addresses range, e.g. an IP subnet, is a range of IP addresses which are all eligible to be learned.” Col. 13, lines 18-32 of Rodrig et al.

That is, Rodrig et al. describe judging whether a station is eligible to be learned or not based on a list of eligible IP address ranges, and learning an address when the station is eligible to be learned. And Rodrig et al. fail to disclose limiting and controlling a number of learned addresses for each user group of a plurality of user groups.

Further, Rodrig et al. fail to disclose a learning number counter for storing a number of learned addresses for each of the plurality of user groups in the address learning table, limiting the number of learned addresses of a user group judged based on a header of a received packet in the plurality of user groups in the address learning table, and updating the number of learned address of the user group in the learning number counter when the number of learned addresses for the user group does not exceed the address upper limit.

In other words, even assuming, arguendo, that it would have been obvious to one skilled in the art at the time the claimed invention was made to combine Wu et al., Brown, and Rodrig et al., such a combination would still have failed to disclose or suggest,

“[a] switching apparatus for learning a source address set in a packet in an address learning table and delivering a packet on the basis of an address learned in said address learning table, said switching apparatus comprising:
an address learning unit for limiting a number of learned addresses such that a number of learned addresses in said address learning table for each of user groups which are

classified into a plurality of groups based on header information set in said packet is equal to or less than an address learning upper limit value for said user group; and

a learning number counter for storing a number of learned addresses for each user group of said plurality of said user groups in said address learning table,

wherein said address learning upper limit value is set for each user group, and

said address learning unit limits the number of learned addresses of a user group judged based on a header information of a received packet in said plurality of user groups in said address learning table and updates the number of learned addresses of the user group in the learning number counter when the number of learned addresses for the user group does not exceed the address upper limit," as recited in claim 1.
(Emphasis added)

Accordingly, Applicants respectfully submit that claim 1, together with claims 2-5 and 16-17 dependent therefrom, is patentable over Wu et al., Brown, and Rodrig et al., separately and in combination, for at least the above-stated reasons. The Examiner cited Sistanizadeh et al. and Vasa as further combining references to specifically address the additional features recited in claims 6 and 9-11, respectively, which also depend from claim 1. As such, further combinations with these references would still have failed to cure the above-described deficiencies of Wu et al., Brown, and Rodrig et al., even assuming, arguendo, that such further combinations would have been obvious to one skilled in the art at the time the claimed invention was made. Accordingly, Applicants respectfully submit that claims 6 and 9-11 are patentable over the cited references for at least the foregoing reasons. Claims 7-8 incorporate features that correspond to those of claim 1 cited above. And as described above, a combination of Vasa, Brown, and Sistanizadeh et al. would still have failed to disclose or suggest each and every feature of the claimed invention. Accordingly, Applicants respectfully submit that claims 7-8 are patentable over the cited references for at least the foregoing reasons.

Claims 12-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wu et al. in view of Vasa, U.S. Patent Application Publication No. 2003/0031190 to Ohnishi et al., and further in view of Rodrig et al.; claim 14 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0123462 to Kusayanagi et al. in view of Brown, Rodrig et al., and further in view of U.S. Patent No. 7,415,022 to Kadambi et al.; and claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kusayanagi et al. in view of Brown, and further in view of Rodrig et al.

Corresponding to the above, claims 12-15 incorporate features that correspond to those of claim 1 cited above. And the Examiner relied upon newly-cited Rodrig et al. as a combining reference that allegedly cured the deficiencies of Wu et al., Vasa, and Ohnishi et al. with respect to claims 12-13, and Kusayanagi et al., Brown, and Kadambi et al. with respect to claims 14 and 15, respectively. As described above, Rodrig et al. fail to disclose or suggest the relevant features of the claimed invention for which this reference has been relied upon, thus failing to cure deficiencies of the remaining cited references, even assuming, arguendo, that the combinations of references would have been obvious to one skilled in the art at the time the claimed invention was made. Accordingly, Applicants respectfully submit that claims 12-15 are patentable over the cited references for at least the above-stated reasons.

In view of the remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,

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